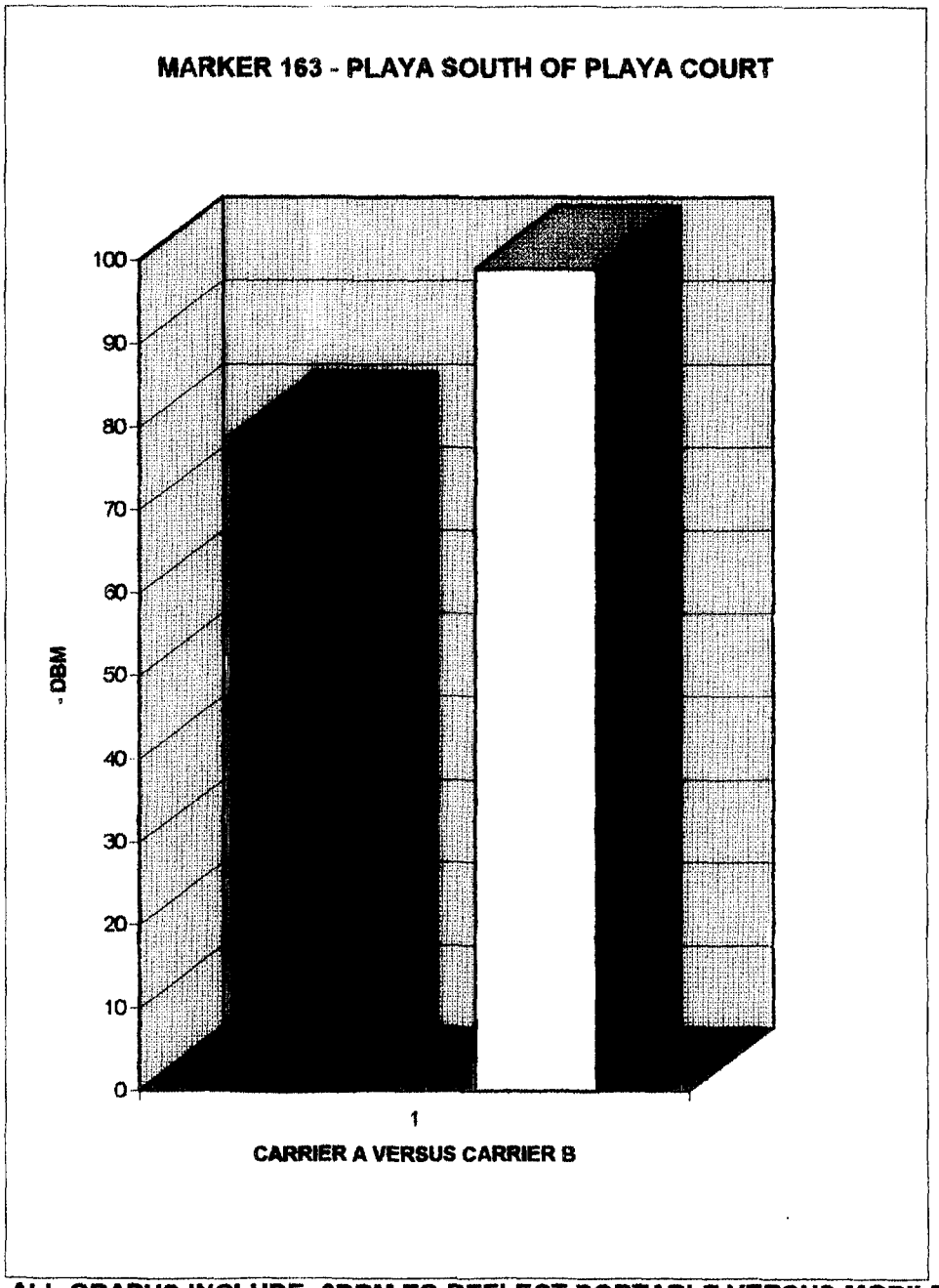
MARKER 163 **PLAYA SOUTH OF PLAYA COURT**

		CARRIER B MINUS DBM -8DBM	
71	79	99	91
78			94
87			98
89			100
93			101
94			101



ALL GRAPHS INCLUDE -8DBM TO REFLECT PORTABLE VERSUS MOBILE

EXPLANATION OF BAR GRAPHS

The following bar graphs show the comparison between the A and B carriers in the areas indicated in the attached legend. At each location 6 signals from each of the carriers were monitored simultaneously, along with their signal strengths. The channel number is indicated in the left hand column and the signal strength in the right hand column below each carrier listing. It should be noted that , in a number of cases, as the test was conducted, the strongest signal for a given carriers switched to the third or fourth preference signal by moving only a few feet.

The bar graph includes an additional 8 dbm of degradation to account for the difference in power level between the cellular bay station site and the portable. Not included would be degradation caused by the human body, the metal in the automobile (specifically the door post), and the tendency of the user to hold the antenna in a diagonal position, as opposed to the optimum vertical position, from which the readings were taken, or compared to an external mobile antenna which is vertical.

MARKER 132 **NATIONAL AND VICKER**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
316	-94	334	-105
332	-100	351	-106
315	-100	349	-113
323	-104	345	-113
314	-109	347	-115
333	-110	354	-115

MARKER 134 **NATIONAL AND VICKER**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
323	-88	351	-101
316	-89	334	-103
315	-98	352	-108
314	-104	341	-109
320	-106	347	-111
332	-107	345	-111

MARKER 135 **NORTH OF VICKER ON NATIONAL**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
323	-90	351	-85
316	-93	334	-96
315	-96	352	-109
314	-99	345	-109
325	-100	341	-110
332	-101	347	-113

MARKER 136 **3100 CASTLE HEIGHTS**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
323	-96	351	-88
316	-98	334	-89
332	-101	336	-106
314	-103	343	-106
320	-104	352	-107
313	-106	349	-110

MARKER 142 **2523 CASTLE HEIGHTS**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
316	-87	334	-101
325	-91	343	-103
323	-96	336	-106
330	-98	352	-108
320	-99	345	-111
313	-102	341	-112

MARKER 147 **CISCO AND BEVERWIL DRIVE**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
325	-94	351	-105
330	-102	353	-105
319	-105	342	-107
321	-106	339	-109
316	-108	340	-111
329	-109	343	-113

MARKER 148 **VICKER AND CASTLE HEIGHTS**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
323	-91	351	-81
316	-91	334	-87
332	-100	347	-107
314	-102	342	-108
333	-103	352	-109
326	-104	346	-111

MARKER 158 **OVERLAND AND REGENT STREET**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
315	-61	334	-89
332	-65	336	-106
316	-85	342	-106
333	-87	354	-110
331	-93	351	-110
314	-95	349	-113

MARKER 159 **OVERLAND AND BRADDOCK**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
332	-90	334	-98
333	-92	349	-103
331	-96	336	-104
328	-99	345	-104
319	-99	351	-106
329	-101	343	-106

MARKER 160 **4909 OVERLAND**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
328	-89	349	-102
332	-89	336	-103
319	-93	351	-105
333	-94	345	-108
317	-100	339	-109
314	-104	347	-109

MARKER 161 **JEFFERSON AND OVERLAND**

CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
333	-87	336	-101
331	-92	349	-107
328	-95	354	-108
332	-98	345	-110
319	-99	351	-110
329	-99	343	-112

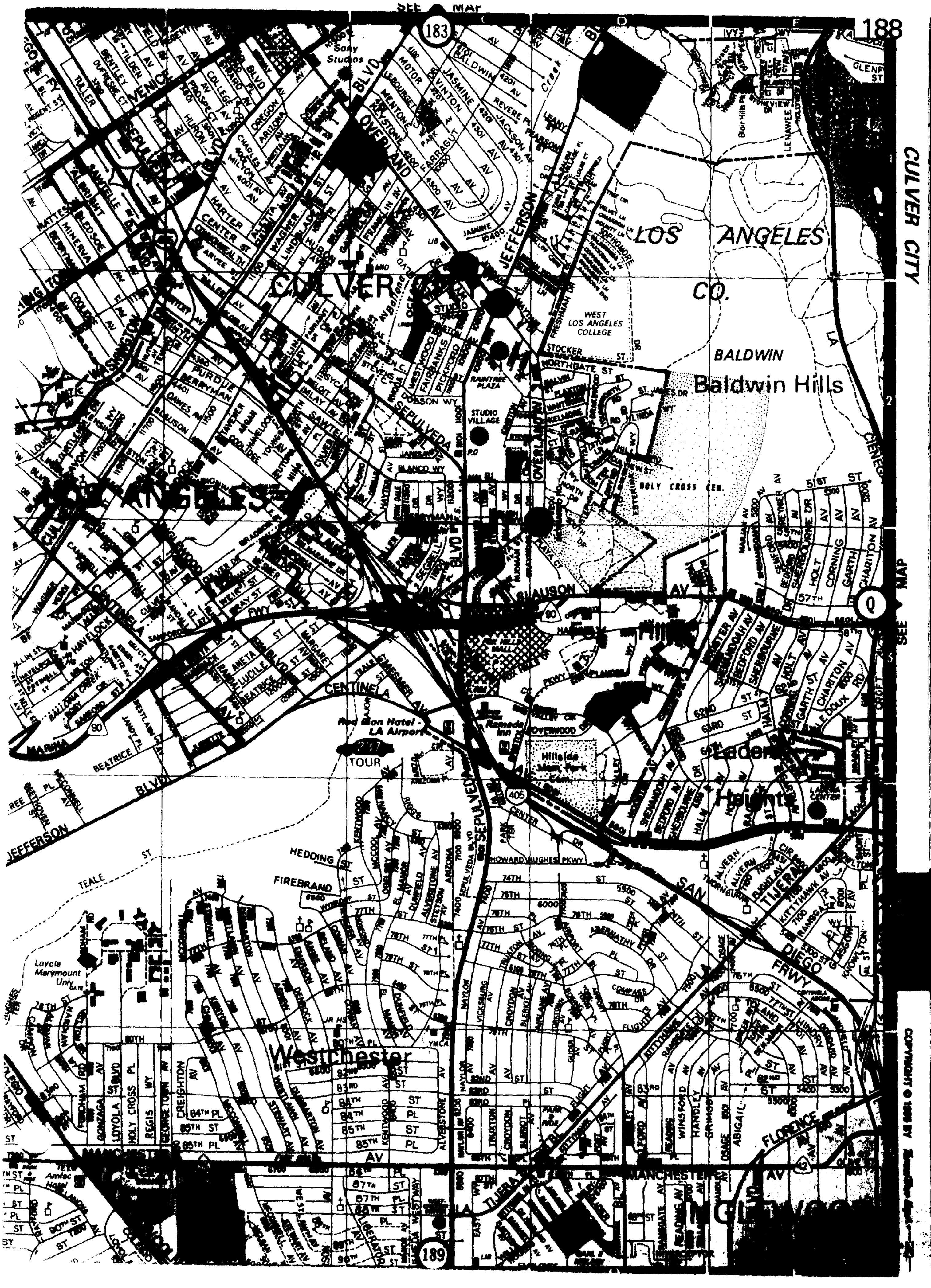
MARKER 162 **PLAYA AND PLAYA COURT**

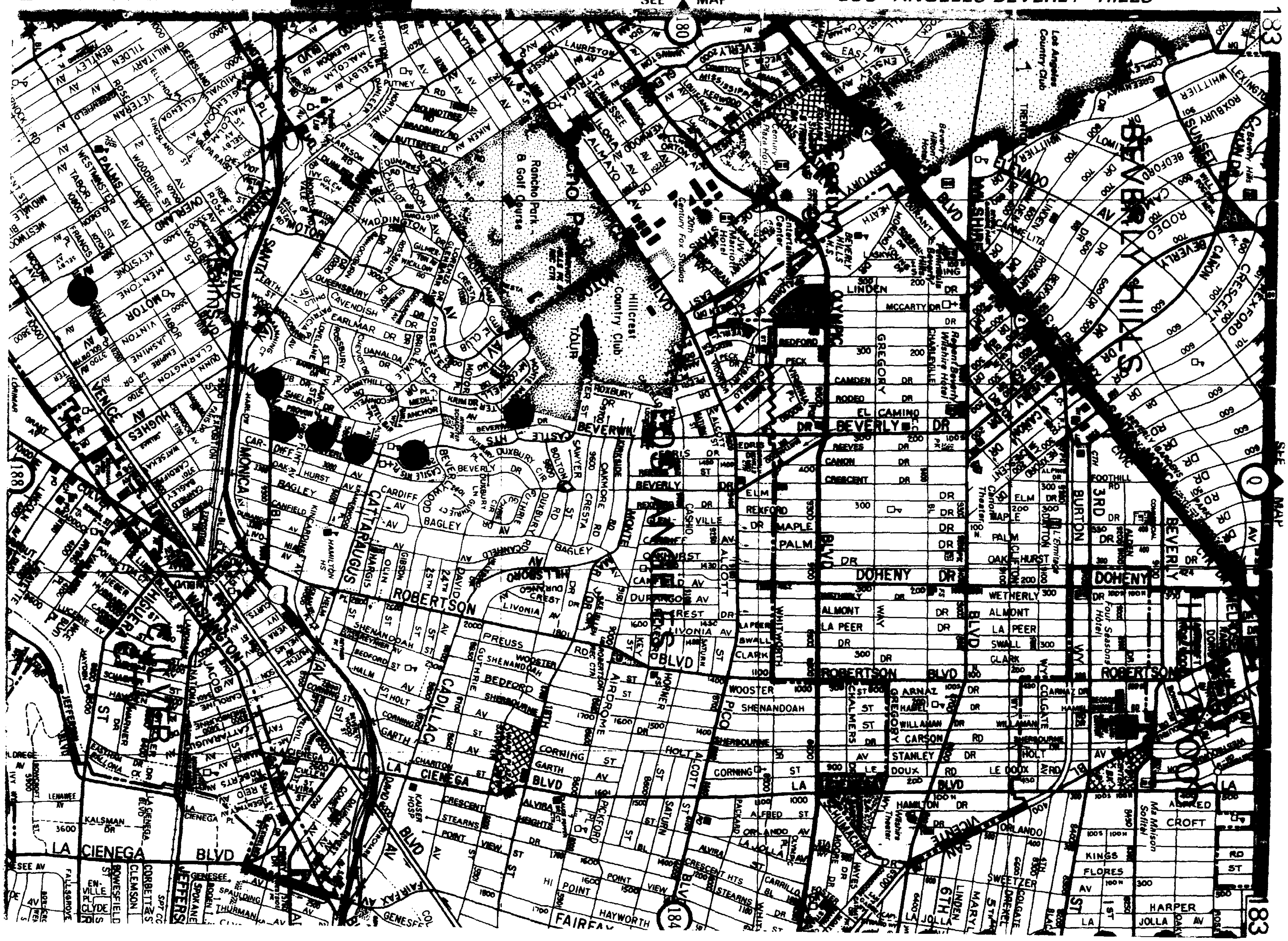
CARRIER A		CARRIER B	
CHAN	DBM	CHAN	DBM
319	-83	349	-100
333	-89	347	-108
331	-96	338	-108
328	-96	345	-108
327	-100	354	-111
332	-102	348	-111

MARKER 163

PLAYA SOUTH OF PLAYA COURT

CARRIER A		**CARRIER B**	
CHAN	DBM	CHAN	DBM
333	-71	349	-91
326	-78	354	-94
331	-87	336	-98
327	-89	334	-100
316	-93	345	-101
325	-94	339	-101


SEE MAP
183
Sony Studios
CULVER CITY
LOS ANGELES
CO.
WEST LOS ANGELES COLLEGE
BALDWIN
Baldwin Hills
STUDIO VILLAGE
RAINTREE PLAZA
HOLY CROSS CEM.
Red Lion Hotel - LA Airport
Ramada Inn
TOUR
Hillside Mem. Park Cem.
Ladera Heights
LADERA CENTER
Loyola Marymount Univ
Westchester
SEPULVEDA
JEFFERSON
OVERLAND
SLAUSON
CENTINELA
SAN DIEGO FRWY
MANCHESTER
FLORENCE
405
90
Q
189


180
Los Angeles Country Club
Rancho Park & Golf Course
Hillcrest Country Club
20th Century Fox Studios
Century Plaza Hotel
Regent Beverly Wilshire Hotel
Four Seasons Hotel
Ma Maison Sofitel
KAISER HOSP
BEVERLY HILLS
CULVER CITY
SANTA MONICA BLVD
WILSHIRE BLVD
OLYMPIC BLVD
PICO BLVD
ROBERTSON BLVD
LA CIENEGA BLVD
VENICE BLVD
WASHINGTON BLVD
OVERLAND AV
MOTOR AV
BEVERLY DR
DOHENY DR
SAN VICENTE BLVD
CADILLAC AV
FAIRFAX AV
184
188
183

ANALYSIS OF TEST RESULTS

The readings shown in the attached tables are the received signals from the cell sites, less 8 dbm, which is the correction for the hand-held transmitter back to the cell site (.600 watts).

Since the minimum signal requirement to a cell site is a -115 dbm, the bar graphs show a number of areas where the difference in signal strength from the two carriers were insufficient enough that, under the worst conditions, the subscriber may not have been able to access his primary carrier at that particular time.

Again, by giving the subscriber the option of accessing the stronger signal, the likelihood of being able to access the system and the 911 operator is dramatically enhanced.

REASONS CELLULAR CARRIERS HAVE NOT CO-LOCATED CELL SITES

There are a number of reasons why, over the past eight years, during the cellular build-out, that the two cellular carriers in each market, on the most part, have elected not to co-locate their cell sites. These reasons are political as well as technical but you will find that the primary reason was a function of timing, since the Federal Communications Commission allowed the wire line carriers to construct many months, or even years, before the non-wire line carrier in most cities. The engineers approached the cell sites from a marketing standpoint and cost savings in the beginning. The cellular carriers also decided to go after certain niche markets which meant that to cover a remote community or a specific complex meant installing a cell site that the competition did not have. As the demand for coverage continued, new cell sites were placed where their current cells could not cover. The coverage, or lack of coverage, to certain areas is affected by natural terrain, large buildings or man-made structures and, of course, distance.

For example, in the Las Vegas market the non-wire line carrier, that came on-line almost a year after the wire line carrier, elected to use fewer cell sites but designed these as HIGH SITES to cover the maximum area with the fewest number of cells. As their marketing department became successful and the system could no longer handle the growth of subscribers, the philosophy was then switched to add additional cells in a LOW SITE configuration. In the meantime the wire line carrier elected to cover the recreational communities such as Lake Mead and Mt. Charleston whereas the non-wire line concentrated on the hotels, casinos and gaming market and provide better penetration into those large buildings.

Each engineer had their own idea as to how the system should be built, the antennas to be used, the tower or monopole heights, etc. Each of these factors affects coverage. Consequently,

the coverage of each carrier is unique and different and in any given area signal strengths from carrier A could differ dramatically from carrier B.